

COMMERCIAL STANDARD CS264-64

WOOD HORIZONTAL-SLIDING WINDOW UNITS

(All Sash Operating)

A recorded
voluntary standard of the
trade published by
the U.S. Department
of Commerce



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NATIONAL BUREAU OF STANDARDS
Office of Commodity Standards

With the cooperation of the
Forest Products Laboratory
Forest Service
U.S. Department of Agriculture

EFFECTIVE DATE

Having been passed through the regular procedures of the Office of Commodity Standards (formerly the Commodity Standards Division, Office of Technical Services; transferred to the National Bureau of Standards July 1, 1963) and approved by the acceptors hereinafter listed, this Commercial Standard is issued by the U. S. Department of Commerce, effective March 17, 1964.

LUTHER H. HODGES, *Secretary.*

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Office of Commodity Standards of the National Bureau of Standards. Their purpose is to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Office of Commodity Standards the necessary data to be used as the basis for developing a standard of practice. The office by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the office assures continuous servicing of each Commercial Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Office of Commodity Standards cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific tasks.

The initial printing of CS264-64 was made possible through the cooperation of the National Woodwork Manufacturers Association.

WOOD HORIZONTAL-SLIDING WINDOW UNITS

(All Sash Operating)

Effective March 17, 1964

1. PURPOSE

1.1 The purpose of this Commercial Standard is to establish nationally recognized standard requirements for the materials, construction and assembly of stock horizontal-sliding wood window units for the guidance of producers, distributors, architects, builders, and the public; to avoid delays and misunderstanding; and to effect economies from the producer to the ultimate user through a wider utilization of these standard items.

2. SCOPE

2.1 This standard provides minimum requirements for horizontal-sliding wood window units with a glass height up to and including 50 inches and with all sash operating. It covers material, construction, assembly, grading, and tolerances for these requirements.

2.2 Essential construction requirements are given for the following: frames, 1½ in. sliding type windows, weather stripping, storm sash, screens, and the assembly of component parts into a window unit.

3. GENERAL REQUIREMENTS

3.1 All wood horizontal-sliding window units labeled or otherwise designated as complying with this Commercial Standard shall conform to all of the quality requirements contained herein. (See par. 6.1.)

3.1.1 **TYPE OF WINDOW UNIT**—The window unit shall be of the horizontal-sliding type and all sash shall be operative and may be removable.

3.1.2 **MOISTURE CONTENT OF LUMBER**—All wood parts shall be made from lumber of the species named in 3.1.5 that has been dried and has a moisture content of from 6 to 12 percent at the time of fabrication.

3.1.3 **PRESERVATIVE TREATMENT**—All wood parts of window units shall be water-repellent preservative treated after machining in accordance with the latest edition of Commercial Standard CS262, Water-Repellent Preservative Non-Pressure Treatment for Millwork.¹

3.1.4 **WEATHERSTRIP**—Weatherstrip shall be made, at the option of the manufacturer, of any suitable material that has rigidity and durability adequate for normal and continuous operation. The weather strip shall be installed in the window frame or window sash, or both. It shall be effective to the point that it will prevent (after inside stops and stool are applied, sash locked and before storm sash are installed) air infiltration or leakage in excess of 0.50 cu. ft. of air per minute per linear foot of total sash crack perimeter when subjected to wind pressure equivalent to 25 miles per hour. The test sample shall have at least two sash with a minimum glass size in each sash of 54 united inches (width plus height).

3.1.5 **SPECIES OF LUMBER**—Lumber used for window frame, window sash, storm sash, and screen frame shall be of the species listed below. Not more than two species may be used in any one frame, or more than one species in any

one window, storm sash, or screen. (Ponderosa pine, Idaho white pine, and sugar pine are considered interchangeable.)

Incense cedar	Idaho white pine	Ponderosa pine
Western red cedar	Western larch	Southern yellow pine
Cypress	West coast hemlock	Sugar pine
Douglas fir	Lodgepole pine	Redwood ²
White fir	Northern white pine	Engelman spruce
		Sitka spruce

3.1.6 **FINGER JOINTS**—A quality finger joint is defined as a series of fingers machined on the ends of two pieces to be joined, which mesh together and are held firmly in position by a water-resistant adhesive. The parts joined by the finger joint must be precision machined. The water-resistant adhesive shall conform to Federal Specification MMM-A-125, or be such as may be used for Type II plywood (water-resistant bond) as defined in Commercial Standard 35-61 (or later revision) Hardwood Plywood, or equal.³

4. WINDOW FRAMES. DETAIL REQUIREMENTS

4.1 **SPECIES OF LUMBER**—The window frame shall be manufactured from the species named in 3.1.5.

4.2 **GRADING**—All exposed parts of the window frame shall be free from defects (see 4.2.1), except that slight surface checks not over ¼ in. in depth and 2 in. in length, an occasional sound knot not over ¼ in. in diameter, or occasional blemishes or knurls not more than ¾ in. in diameter will be permitted. The unexposed surfaces of these parts shall have no defects that are structurally unsound. Finger joints as defined in 3.1.6 will be permitted in all members of window frame except the sill and the outside casing wider than 2 in.

4.2.1 The term "free from defects," as used in this standard to apply to various parts, shall not exclude the use of pieces with light-brown stain, and with light to moderate streaks. In defining defects, grading rules of the Southern Pine Inspection Bureau, West Coast Lumber Inspection Bureau, Western Pine Association, National Hardwood Lumber Association, Redwood Inspection Service, and of other associations not mentioned herein that are applicable to species not covered by the above-named associations, shall govern on the species covered by the respective associations' grading rules.

4.3 **CONSTRUCTION**—In accordance with the standard practice of the individual manufacturer, frames shall be manufactured with the side jambs dadoed or notched to receive the head jamb and sill, or the cross members dadoed or notched to receive the side jambs. The width of such dado or notch shall be not more than 3/64 in. wider than the thickness of the butting member.

¹ Copies of Commercial Standards referenced herein are obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

² Where redwood is used, nails or other fasteners shall be either galvanized or nonferrous.

³ Copies of Federal Specification MMM-A-125, Adhesives, Casein-type, Water and Mold Resistant, are available for 10 cents each from the Business Service Center, General Services Administration, 7th and D Sts. S. W., Washington, D. C. 20407.

4.3.1 The frame opening in height and width, which is controlled by the head jamb, the sill, and the two side jambs, shall be within 1/32 in. plus or minus, of the specified opening size, except in the height of those units so designed that either sash may be removed from the frame without removing the inside stops or parting stops.

4.4 SILL—The sill shall be at least 1-5/16 in. thick at its thickest part (when measured between two parallel planes representing (1) the highest point on the top surface of the sill and (2) the bottom of the sill and these planes shall be parallel to the bottom of the sill) and may be machined from solid stock or glued-up stock having a Type I bond as described in latest edition of Commercial Standard CS-35-61. Two piece sill are acceptable. When main sill and undersill are used (see section on nomenclature and definitions) the main sill shall be at least 23/32 in. at its thickest part and the undersill shall be at least 1-5/16 in. at its thickest part and 3 1/2 in. at its widest part with a tongue and groove connection between main sill and undersill. The two pieces shall be nailed together with at least 6d casing nails not to exceed 3 in. from side jamb and spaced not to exceed 10 in. on centers. When main sill and sill nosing are used (see section on nomenclature and definitions) both the main sill and its nosing shall be at least 1-5/16 in. at their thickest part. The parts shall be joined together with a double tongue and groove joint with the grooves run on the edge of the main sill and the tongues run on the nosing. The top edge of one tongue shall be flush with the top surface of the nosing and this surface shall be below the top surface of the main sill. The sill nosing shall be fastened to the main sill by at least 16d cement coated casing nails driven through the edge of the nosing into the main sill with at least 1 1/2 in. penetration into the main sill. The nails should be spaced not to exceed 14 in. on center with one nail within 3 in. of each end of the sill and a minimum of 3 nails per sill. Other fastenings with equivalent holding power, as certified by an accredited testing laboratory, may be used when fastening nosing to the main sill. At the option of the manufacturer, a Type I adhesive may be used in conjunction with a tongue and groove or flush joint provided the above nailing schedule is followed. Bottom side and inside edge of sill are considered not exposed. Bevel of sill shall be 14° with a tolerance of 1°, plus or minus, to correspond with the bevel of bottom rail of the sash.

4.5 SILL AND HEAD SASH GUIDES OR WEATHERSTRIP.

4.5.1 SILL SASH GUIDES—The top of the sill shall be equipped with a track or guide of molded plastic or metal which requires no paint or finish and which permits easy sliding operation of all sash.

4.5.2 HEAD SASH GUIDES—The head jamb shall be equipped with a sash track or guide of molded plastic or metal or weatherstrip which requires no paint or finish and which permits easy sliding operation of all sash.

4.6 JAMB AND BLIND STOP.

4.6.1 Side jambs and head jambs shall be at least 3/4 in. thick with a plus tolerance of 1/32 in. The blind stops, when required, shall be not less than 1/2 in. thick. There shall be a tongue-and-groove joint between the blind stop and the jamb.

4.6.2 The width of the applied blind stops shall be at least the thickness of the jamb plus 1/2 in. projection from face of jamb. The width of the jambs (including blind stops) shall be within 1/16th in., plus or minus, of ordered size.

4.6.3 The back side of the jamb and that portion covered by the weatherstrip are not to be considered exposed. All other surfaces of the jamb visible after the unit is assembled shall be considered exposed.

4.6.4 The blind stop, when used, shall be nailed to the edge of the jamb proper with 6-penny box or common nails (if blind stops are under 3/8 in. thick at the junction with the jamb, 4-penny nails may be used), in accordance with the minimum number specified below, and they shall be located as indicated.

On horizontal blind stops:

3 nails per head jamb on sizes over 2'6" and not over 3'6" in width.

4 nails per head jamb on sizes over 3'6" and not over 4'6" in width.

5 nails per head jamb on sizes over 4'6" and not over 5'6" in width.

6 nails per head jamb on sizes over 5'6" and not over 6'6" in width.

1 nail, as specified above, shall be within 3" of each side jamb.

On vertical blind stops:

3 nails per side jamb on sizes not over 2'8" in height.

4 nails per side jamb on sizes over 2'8" and not over 4'4" in height.

1 nail, as specified above, shall be within 3" of each end of blind stop.

4.6.4.1 At the option of the fabricator, machine driven knurled pins may be used for nailing the blind stop to the jamb. The pins shall have a diameter not less than #15 gauge standard wire and a length, after driving, of not less than a 6-penny box or common nail. The minimum number of pins shall be as specified below, and they shall be located as indicated.

On horizontal blind stops:

3 pins per head jamb on sizes over 2'6" and not over 3'6" in width.

4 pins per head jamb on sizes over 3'6" and not over 4'6" in width.

5 pins per head jamb on sizes over 4'6" and not over 5'6" in width.

6 pins per head jamb on sizes over 5'6" and not over 6'6" in width.

1 pin, as specified above, shall be within 3" of each side jamb.

On vertical blind stops:

3 pins per side jamb on sizes not over 2'8" in height.

4 pins per side jamb on sizes over 2'8" and not over 4'4".

1 pin, as specified above, shall be within 3" of each end of blind stop.

(See section 4.7.3 for nailing casing or brick mold, blind stop and jamb in one operation.)

4.6.5 Each joint between head jamb and side jambs shall be nailed as follows:

Jamb width exclusive of Blind stop and inside liner	Minimum number of 6-penny box or common nails
Up to 4"	3
4" up to 5"	4
5" and over	5

4.6.6 Each joint between sill and side or mullion jambs shall be nailed as follows:

SIDE JAMBS DADOED FOR SILL — SILL DADOED FOR MULLION JAMBS

Jamb Width Exclusive of Blind Stop and Inside Liner	Minimum number of 6-penny box or common nails through side jamb into end of sill	Minimum number of 10-penny box or common nails through sill into end of each mullion jamb ¹
Up to 4"	3	3
4" up to 5"	4	4
5" and over	5	5

¹In lieu of above, one less nail may be used through sill into end of each mullion jamb if one nail is driven through sill into end of mullion casing.

SILL DADOED FOR SIDE AND MULLION JAMBS

Jamb Width Exclusive of Blind Stop and Inside Liner	Method "A"* Minimum number of 10-penny box or common nails through sill into end of each side and mullion jamb
Up to 5"	4
5" and over	5

*Method "B" or "C" as described below may be used at option of fabricator:

"B"—One less nail may be used through sill into ends of side jambs if two 6-penny box or common nails are toenailed through the jamb into the sill.

"C"—One less nail may be used through sill into ends of side and mullion jambs if one nail is driven through sill into end of each side and mullion casing.

4.6.7 MULTIPLE OPENINGS—At the option of the manufacturer, multiple window openings may be filled by combining single units.

4.6.8 Where the subsill is used, subsill and side jambs shall be nailed with at least four 6-penny box or common nails per joint regardless of which member is dadoed and one 8-penny nail driven through under side of sill into end of casing.

4.6.9 Other fastenings with at least equivalent holding power, as certified by an accredited testing laboratory, may be used under pars. 4.6.4, 4.6.5, 4.6.6, and 4.6.8.

4.7 CASING.

4.7.1 Both head and side casings shall be at least $\frac{3}{4}$ in. thick with a minus tolerance of $\frac{1}{32}$ in. Casings shall be at least $1\frac{3}{4}$ in. wide with a manufacturing tolerance of minus $\frac{1}{16}$ in.

4.7.2 Exposed portions of casings shall be free from defects, as defined in pars. 4.2 and 4.2.1, on face and two edges when used in frame walls, or only one exposed edge and that portion of the face exposed when brick mold is planted on for brick-veneer construction.

4.7.3 The casing and/or brick mold shall be face-nailed to the jamb with 6-penny casing nails on casing not over $\frac{25}{32}$ in. thick, and with 8-penny casing nails on thicker casing or brick mold. The nails shall be spaced in accordance with the minimum number specified below, and shall be located as indicated.

On horizontal casings:

4 nails per casing on sizes over 2'6" and not over 3'6" in width.

5 nails per casing on sizes over 3'6" and not over 5'6" in width.

6 nails per casing on sizes over 5'6" and not over 6'6" in width.

1 nail, as specified above, shall be as near to intersection of head and side jamb as practicable.

On vertical casings:

3 nails per casing on sizes not over 2'0" height of frame opening.

4 nails per casing on sizes over 2'0" and not over 3'0" height of frame opening.

5 nails per casing on sizes over 3'0" and not over 4'4" height of frame opening.

Side casings shall have 1 nail within 3 in. of each end. Mitered corners of casings shall be cross-nailed through edges.

4.7.3.1 At the option of the fabricator, machine driven knurled pins may be used for nailing the casing or brick mold, blind stop and jamb together in one operation. The pins shall have a diameter not less than #13 gauge standard wire and a length, after driving, not less than an 8-penny casing nail. The minimum number of pins shall be as specified below, and shall be located as indicated.

On horizontal casings:

5 pins per casing on sizes over 2'6" and not over 3'6" in width.

7 pins per casing on sizes over 3'6" and not over 5'6" in width.

9 pins per casing on sizes over 5'6" and not over 6'6" in width.

1 pin, as specified above, shall be as near to intersection of head and side jamb as practicable.

On vertical casings:

3 pins per casing on sizes not over 2'0" height of frame opening.

5 pins per casing on sizes over 2'0" and not over 3'0" height of frame opening.

7 pins per casing on sizes over 3'0" and not over 4'4" height of frame opening.

Side casing shall have 1 pin within 3 in. of each end. Mitered corners of casings shall be cross-nailed through edges. (See section 4.6.4 for nailing blind stop and jamb only.)

4.7.4 Mullion casing shall receive twice the number of nails as specified above for one side casing, except that where a one-piece double faced jamb is used, the number of nails may be the same as for one side casing.

4.7.5 All nails used in the assembly of the frame shall be coated, except that bright nails may be used in nailing the

blind stops to the side jambs and head jambs; however, when redwood is used for blind stops or head jambs, or both, nails shall be either galvanized or nonferrous. Knurled machine driven pins need not be coated.

4.7.6 Other fastenings with at least equivalent holding power as certified by an accredited testing laboratory may be used under pars. 4.7.3 and 4.7.4.

4.8 DRIP CAP.

4.8.1 Thickness and width of drip cap may vary among manufacturers, but it shall be at least $\frac{3}{4}$ in. thick at thickest part and shall project at least $\frac{3}{8}$ in. beyond face of head casing. Drip cap shall either be rabbeted or have water-drip groove on under side of front edge, or both.

4.8.2 The top and outside edge faces of the drip cap shall be free from defects in accordance with pars. 4.2 and 4.2.1. The nails used in the drip cap shall be 6-penny box or common nails and shall be spaced not over 15 inches apart and not less than 3 in. from each end. At the option of the fabricator, machine driven knurled pins may be used in nailing the drip cap. The pins shall have a diameter not less than #15 gauge standard wire and a length, after driving, not less than a 6-penny box or common nail, and shall be spaced not over 12 in. apart and not less than 3 in. from each end. Other fastenings with at least equivalent holding power, as certified by an accredited testing laboratory, may be used.

4.9 OTHER FRAME PARTS—Reversible blind stops will not be considered as exposed when used on frames, and they shall be nailed to the back side of the brick mold or casing. The same minimum number of nails as listed for both side and head casings shall be used.

4.10 BRACES—After the frame is completely assembled and the sash installed, a vertical center brace shall be applied to maintain an equal opening height from head to sill. Frames shall be squared by the fabricator, using a rod to make diagonal corners an equal distance apart, and at least one diagonal brace not less than 24 in. long shall be nailed across the frame at one corner while in the square position.

5. WINDOWS, STORM SASH, AND SCREENS — DETAIL REQUIREMENTS

5.1 MATERIAL—Windows, wood storm sash, and wood screens used in sliding wood window units shall be manufactured from the species of lumber named in 3.1.5. Finger joints, as defined in 3.1.6 will be permitted in storm sash and screens.

5.2 WORKMANSHIP—Windows, sash, and screens shall be well manufactured. Both sides of all assembled sash shall be sanded smooth.

5.3 CONSTRUCTION - GENERAL — Sash and all tenoned screens shall be well clamped together and all rail tenons carefully pinned with barbed steel pins set through the tenon. Machine-driven pins, barbed or smooth, not less than 0.008 of a square inch in cross-sectional area may be used. All $1\frac{3}{8}$ in. sash shall have vertical and horizontal bars tenoned to fit into mortise of stiles and rails, and shall have one barbed steel pin inserted at each end of at least one vertical bar, and at each end of all horizontal bars. Muntins are to be franked, tenoned, and inserted into franked mortises of stiles, rails, or bars. In lieu of the above construction requirement both bars and muntins may be slip-coped, but in such case they must be secured at their juncture with other members by toenailing or stapling.

Stiles and rails shall have solid stickings. All joints shall be coped and well fitted. All stiles and rails of putty-glazed sash shall have grooves and/or indentations in the putty rabbet.

5.3.1 MORTISED-AND-TENONED CONSTRUCTION—Windows, storm sash, and window screens may be made by what is known as mortised-and-tenoned construction. The tenon width shall be not less than two-thirds of the over-all rail width. All mortised and tenoned sash and window screens shall be pinned, in accordance with par. 5.3, with not less than 1 pin at each end of top rails, and with not less than 2 pins at each end of bottom rails.

5.3.2 SLOTTED CONSTRUCTION — Windows, storm sash, and window screens may be made by what is known as slotted construction. The tenon shall be the full width of the rail. All slotted sash and window screens shall be pinned, in accordance with par. 5.3, with not less than 1 pin at each end of top rails, and with 2 pins, at each end of bottom rails.

5.3.3 DOWELLED CONSTRUCTION — Window screens may be made by what is known as dowelled construction. Stiles and rails shall be bored to receive dowels not less than $\frac{3}{8}$ in. in diameter by 3 in. in length. Dowels shall have glue grooves and/or indentations and be sized for a drive fit. Dowels shall be set in water-resistant glue and extend one-half their length into each stile and rail, and be assembled under pressure. The number of dowels at each end of the rails shall be as follows:

Top rail — 1 or 2 dowels, at the option of the manufacturer

Bottom rail — 2 dowels

5.4 STICKING—The sash sticking may be of any design provided that the glass rabbet for $1\frac{3}{8}$ in. sash is a minimum of $\frac{3}{16}$ in. deep by $\frac{1}{2}$ in. wide, and for storm sash, $\frac{3}{16}$ in. deep by $\frac{3}{8}$ in. wide.

5.5 CHECK OR MEETING STILES—Check or meeting stiles shall be notched to fit the sash guides as required.

5.6 DIVIDED-LIGHT WINDOWS—Made on two-light layouts are acceptable under this standard.

5.7 FINISHED THICKNESS—The finished thickness of all nominal $1\frac{3}{8}$ in. windows and sash shall be $1-11/32$ in. with a tolerance of plus or minus $1/32$ in. The finished thickness of all nominal $1\frac{3}{8}$ in. storm sash and screens shall be $1-3/32$ in. with a tolerance of plus or minus $1/32$ in. The finished thickness of all nominal $\frac{3}{4}$ in. window screens shall be not less than $21/32$ in.

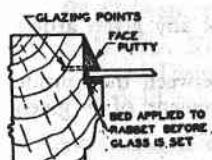
5.8 FACE MEASUREMENTS—The minimum face measurements for sash parts shall be as follows:

Vertical outside stiles	$1\frac{3}{8}$ in.
Rails	$1\frac{3}{8}$ in.
Vertical meeting stiles	$1\frac{3}{8}$ in.

5.9 PARTS TOLERANCES—A tolerance of $1/32$ in., plus or minus, shall be allowed in the width of all machined parts except sash parts which are not wider than the minimums specified in par. 5.8, in which case only the plus tolerance of $1/32$ in. shall be allowed.

5.10 GLAZING—Unless otherwise specified, all sash and storm sash shall be glazed with single-strength "B" glass. The maximum size glass in any sash shall be 76 united inches (width plus height) for single-strength "B" glass, and 100 united inches for double-strength "B" glass. The glass in all horizontal-sliding sash shall be either bedded in putty or glazing compound or be putty glazed on the re-

verse side, using secondary putty rabbet; or at the option of the manufacturer or fabricator, they may be adhesive bedded. Regardless of the glazing method used, a positive seal shall be provided between the glass and the wood on both sides of the glass. In addition, all horizontal-sliding sash, and storm sash may be either face-puttied or wood-stop glazed. In lieu of above, unless otherwise specified, sash may be glazed in solid sticking at time of assembly, after bedding compound has been applied in sash groove. Glazing methods herein provided shall be in accordance with the following:



The sash is then turned over and the excess putty or glazing compound that emerged on the other side is removed.

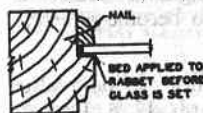


is then filled with putty, the putty being beveled back against the glass.



5.10.3 BEDDING, SECONDARY PUTTY RABBET—After sash has been face-puttied, it is turned over and putty is run into the secondary putty rabbet and into any voids that may exist between the glass and wood parts.

5.10.4 ADHESIVE BEDDING—A continuous ribbon or bead of an effective flexible adhesive bedding material is run in the sash rabbet, in a neat manner, and the glass is pressed into the rabbet with sufficient pressure to insure a bond between the glass and the wood throughout the full perimeter of the rabbet. The adhesive material shall be of such a nature that the bond between the glass and the wood of stiles, rails and muntins and bars, if any, is equal to or greater than that provided by the use of glazing points and wedges, and in addition shall form a watertight seal. If found necessary by the manufacturer to achieve full contact about the perimeter, one or more glazing points may be used. After the adhesive has developed at least 50% of its maximum bond strength according to the specifications of the manufacturer, the sash shall be face-puttied.



securely nailed in place. The sash is then turned over and the excess putty or glazing compound that emerged on the other side is removed. The width of rabbet and type of wood bead shall be optional with the manufacturer.

5.11 INSECT SCREENING—Either aluminum, galvanized steel, or bronze insect wire screening conforming to the latest edition of Commercial Standard CS138, Insect Wire Screening, shall be used on window screens, at manufacturers' option. Fiber glass screening conforming to the latest edition of Commercial Standard CS248, Vinyl-Coated Glass Fiber Insect Screening and Louver Cloth, may be used on 1½ inch screens if applied in a groove with a spline suf-

ficiently pliable to engage the screening and hold it securely in the groove. The mesh of the insect screening shall be 18 by 14, or 18 by 16.

Metal Screening in window screens shall be either rolled into a groove on the face of the stiles and rails or tacked on the face of the stiles and rails. When screening is tacked, the tacks or staples (and in all instances the brads or staples for applying the molding) shall be of copper or brass where bronze screening is used; of galvanized or plain steel where galvanized screening is used; or of galvanized steel, zinc, tinned steel, stainless steel, blued steel, bright steel, or aluminum where aluminum screening is used. The molding on window screens may be either flush or raised. Screen molding shall be mitered at the four corners.

5.12 HANGING HARDWARE—When furnished, hanging hardware to secure storm sash and screens, or either, shall be galvanized, cadmium plated, zinc-coated or prime-coat finished.

5.13 OPTIONAL MATERIALS—In lieu of wood storm sash and wood screens, at the option of the manufacturer, insulating lights may be used, consisting of window glass set in a metal rim and sealed with glazing compound. Aluminum-frame screens with 18 by 14 or 18 by 16 mesh screening (par. 5.11) rolled into a groove in the frame and held in place by a suitably formed spline, are acceptable.

6. LABELING

6.1 In order to assure the purchaser that he is getting a horizontal sliding wood window unit of the quality specified herein, it is recommended that fabricators, individually or in concert with their trade associations, issue guarantees or grade mark each window unit by stamp, brand, or label as conforming to this commercial standard. The following wording is recommended:

"This horizontal sliding wood window unit complies with all requirements of Commercial Standard CS264-64, as developed by the trade under the Commodity Standards Procedures of the U.S. Department of Commerce.

Name of manufacturer"

7. NOMENCLATURE AND DEFINITIONS

7.1 The various terms used in this standard are defined as follows:

Fabricator—The person or firm that assembles all of the component parts of a complete window unit.

Manufacturer—The person or firm that manufactures any of the component parts of the window unit.

Sash—A sash is a single assembly of stiles and rails made into a frame for holding glass, with or without dividing bars, to fill a given opening. It may be either open or glazed.

Window—A window consists of two or more single sash made to fill a given opening. It may be either open or glazed.

Window Unit—Window unit means a combination of the window frame, window, weather strip, and, at the option of the manufacturer, screen and/or storm sash, assembled as a complete and properly operating unit.

COMPONENT PARTS:

Bar—A bar may be either vertical or horizontal and extend the full width or length of the glass opening.

Blind Stop—A strip of wood, usually $\frac{3}{4}$ in. thick, machined to fit the exterior vertical edges of the jamb and keep the sash in place.

Casing—Molding of various widths and thicknesses used to trim window openings.

Check Stiles—Meeting stiles sufficiently thicker than the window to fill the opening between the sash made by the check strip or parting strip in the frame. They are usually beveled and rabbeted.

Dado—A rectangular groove cut across the grain of a frame member.

Drip Cap—A molding placed on the top of the head casing of a window frame.

Extension Blind Stop—A molded piece, usually of the same thickness as the blind stop, and tongued on one edge to engage a plow in the back edge of the blind stop, thus increasing its width and improving the weathertightness of the frame.

Frame (wood)—A frame is a group of wood parts so machined and assembled as to form an enclosure and a support for window or sash.

Head Jamb—The horizontal member forming the top of the opening.

Jamb—That part of any frame which surrounds and contacts the window or sash that the frame is intended to support.

Jamb Liner—A small strip of wood, either surfaced 4 sides or tongued on 1 edge, which, when applied to the inside edge of a jamb increases its width for use in thicker walls.

Muntin—A muntin applies to any short light bar, either vertical or horizontal.

Notch—A rectangular channel, groove or recess (rabbet) cut out of the end or edge of a board or frame member. The cut out section may be continuous or may be dovetailed to receive another dovetailed member to complete the joint.

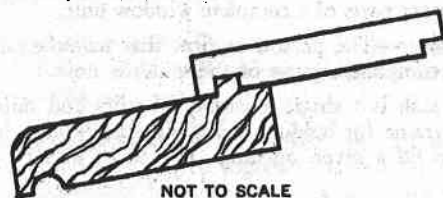
Parting Stop—A thin strip of wood let into the jamb of a window frame to separate the sash.

Rails—The cross, or horizontal pieces of the framework of a sash or screen.

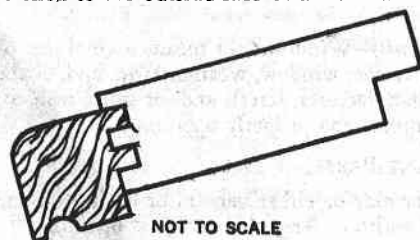
Side Jamb—The upright member forming the side of the opening.

Sill—The horizontal member forming the bottom of the frame.

Main Sill and Undersill—An upper, thinner member of a two-piece window sill resting on top of a thicker, lower member.



Main Sill and Nosing—A narrower exterior extension fastened to the outside face of a main window sill.



Solid Sticking—A mold that is worked on the article itself.

Stiles—The upright, or vertical outside pieces of a sash or screen.

MEASUREMENT:

Between Glass—The measurement across the face of any wood part that separates two sheets of glass.

Face Measure—The measurement across the face of any wood part exclusive of any solid mold or rabbet.

Finished Size—The over-all measurement of any wood part including the solid mold or rabbet.

Outside Opening—The measurement of any given article from outside to outside.

Wood Allowance—The difference between the outside opening and the total glass measurement of a given window or sash.

HISTORY OF PROJECT

The National Woodwork Manufacturers Association, Inc., requested on June 11, 1958 that a Commercial Standard be developed for Wood Horizontal-Sliding Window Units based on a draft which was enclosed with the request. A proposed standard, TS-5417, was circulated on October 13, 1958, to the principal manufacturers, and other key organizations for comment. An adjusted draft, TS-5417A, was widely circulated to the trade for acceptance on February 6, 1959. Many suggestions were received and the project was divided into two separate standards, one for units in which all sash operate, TS-5467, and one for units in which there are one or more non-operating sash, TS-5468. The new drafts were again widely circulated for acceptance on December 4, 1959 and additional suggestions were received. On March 7, 1961 after considerable study, some proposed changes in each standard were recommended by the NWMA, and these changes were circulated for consideration on July 10, 1961.

More trade suggestions were received. On October 25, 1962 the National Woodwork Manufacturers Association submitted suggested changes in sill construction which was the most controversial requirement. The Recommended Revision was circulated to the trade on February 7, 1963; and was reviewed by the Forest Products Laboratory. Some additional editorial changes were made by NWMA on December 16, 1963 and on January 27, 1964 to make this standard consistent with other wood window standards. Many endorsements in the form of signed acceptances from individual organizations concerned were received, and were considered sufficiently representative to assure general industry use of the standard. Therefore, the establishment of a new Commercial Standard for Wood Horizontal-Sliding Window Units (All Sash Operating) designated CS264-64, was announced on February 17, 1964, to become effective for new production on March 17, 1964.

Project Manager: Wm. H. Furcolow, Office of Commodity Standards, National Bureau of Standards, U. S. Department of Commerce, Washington, D. C. 20234.

Technical Adviser: L. O. Anderson, Division of Wood Engineering Research, Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wisconsin. 53705.

STANDING COMMITTEE

The following individuals comprise the membership of the standing committee, which is to review, prior to circulation for acceptance, revisions proposed to keep the standard abreast of progress. Comment concerning the standard and suggestions for revision may be addressed to any member of the committee or to the Office of Commodity Stand-

ards, National Bureau of Standards, U. S. Department of Commerce which acts as secretary for the committee.

Representing Manufacturers:

James G. Boden, Malta Manufacturing Co., Malta, Ohio
(Chairman)

Ivan H. Ramsey, Curtis Companies, Inc., Clinton, Iowa
E. C. Swanson, Pres., Anderson Corp., Bayport, Minn.

Representing Distributors:

J. Reese Jones, Jr., Victoria Sash & Door Co., P.O. Box 98, Shreveport, La.

S. M. Van Kirk, General Manager, National Building Material Distributors Assn., 22 West Monroe St., Chicago 3, Ill.

Representing Users:

Milton W. Smithman, National Association of Home Builders, 1625 L Street, N.W., Washington 6, D.C.

John A. Reidelbach, Jr., Home Manufacturers Association, 910 17th Street, N.W., Washington 6, D.C.

Robert J. Piper, Head, Dept. of Professional Practice, American Institute of Architects, 1735 New York Avenue, N.W., Washington 6, D.C.

ACCEPTORS

The manufacturers, distributors, users, and others listed have individually indicated in writing their acceptance of this Commercial Standard prior to its publication. The acceptances indicated an intention to utilize the Standard as far as practicable, but reserve the right to depart from it as may be deemed desirable. The list is published to show the extent of recorded public support for the Standard, and should not be construed as indicating that all products made by the acceptors actually comply with its requirements.

Products that meet all requirements of the standard may be identified as such by a certificate, grade mark, or label. Purchasers are encouraged to require such specific representations of compliance, which may be given by the manufacturer whether or not he is listed as an acceptor.

ASSOCIATIONS (General Support)

American Institute of Architects, Washington, D. C.
American Wood Window Institute, Chicago, Ill.
Associated General Contractors of America, Washington, D. C.
Home Manufacturers Association, Washington, D. C.
Mississippi Retail Lumber Dealers Association, Inc., Jackson, Miss.
National-American Wholesale Lumber Association, New York, N. Y.
National Association of Home Builders, Washington, D. C.
National Building Material Distributors Association, Chicago, Ill.
National Sash & Door Jobbers Association, Chicago, Ill.
National Woodwork Manufacturers Association, Chicago, Ill.
Ponderosa Pine Woodwork, Chicago, Ill.
Western Pine Association, Portland, Oreg.

FIRMS AND OTHER INTERESTS

Addison-Rudesal, Inc., Atlanta, Ga.
American Millwork Co., Oklahoma City, Okla.
American-Saint Gobain Corp., Kingsport, Tenn.
Ammann & Whitney, New York, N. Y.
Andersen Corp., Bayport, Minn.
Anson & Gilkey Co., Merrill, Wis.
Ashton, C. J., Royal Oak, Mich.
Barger Millwork Co., Stateville, N. C.
Binswanger Glass Co., Richmond, Va.
Blount Lumber Co., Lacona, N. Y.
Boise Cascade Corp., Western Pine Division, Spokane, Wash.
Bradley-Southern Division, Potlatch Forests, Inc., Warren, Ark.
Brust & Brust, Architects, Milwaukee, Wis.
Building Supplies Co., Division of R. F. Trant Distributing Corp., Norfolk, Va.
Cameron, Wm., & Co., Waco, Texas
Camlet, J. Thomas, Architect & Engineer, Garfield, N. J.
Caradco, Inc., Dubuque, Iowa
Carnahan Manufacturing Co., Inc., Loogootee, Ind.
Community Builders, Inc., Washington, D. C.

Circle Woodworking Corp., Richmond, Va.
Clarke Veneers and Plywood, Jackson, Miss.
Combs Lumber Co., Lexington, Ky.
Concord Millwork Corp., Rochester, N. Y.
Cook-Anderson Co., Beaver, Pa.
Crestline Co., Wausau, Wis.
Curtis Companies Inc., Clinton, Iowa
Darby, Bogner & Association, Inc., Architects & Engineers, West Allis, Wis.
D'Arcy Co., Inc., Dover, N. H.
Davidson Sash & Door Co., Inc., Lake Charles, La.
Dayton Sash & Door Co., Dayton, Ohio
Dealers Window Corp., Toledo, Ohio
Delta Millwork, Inc., Jackson, Miss.
Dennis, W. J., & Co., Franklin Park, Ill.
Department of Public Works, City Engineers Office, Detroit, Mich.
Dierks Forests, Inc., Hot Springs, Ark.
Donlin Co., St. Cloud, Minn.
Dort-Wood Products, Inc., Flint, Mich.
Edwards Sash, Door & Lumber Co., Tampa, Fla.
Evansville Sash & Door Co., Inc., Evansville, Ind.
Fellheimer & Wagner, Architects & Engineers, New York, N. Y.
Flint Sash & Door Co., Inc., Flint, Mich.
Gans, Carl H., Consultant to the Plywood, Veneer & Millwork Industry, New York, N. Y.
Goshen Sash & Door Co., Goshen, Ind.
H & S Lumber Co., Charlotte, N. C.
Harbor Sales Co., Inc., Baltimore, Md.
Harnischfeger Homes, Inc., Port Washington, Wis.
Hirzel, Charles K., Architect, New York, N. Y. (General Support)
Huron Sash & Door Co., Huron, S. Dak.
Hussey-Williams Co., Inc., Ozone Park, N. Y.
Huttig Manufacturing Co., Muscatine, Iowa
Huttig Sash & Door Co., Nashville, Tenn.
International Paper Co., Long Bell Division, Kansas City, Mo.
Jackson Sash & Door Co., Inc., Jackson, Miss.
Jacksonville Sash & Door Co., Inc., Jacksonville, Fla.
Jamco Window Unit Corp., Northvale, N. J.
Jordan Millwork Co., Sioux Falls, S. Dak.
Keith, L. J. & Son, Fairfield, Ill.
Kemp, Bunch & Jackson, Architects, Jacksonville, Fla.
Kindem & Sons, Inc., Minneapolis, Minn.
Law, Law, Potter & Nystrom, Madison, Wis.
Lester Brothers, Inc., Martinsville, Va.
Loeb, Laurence M., Architect, White Plains, N. Y.
Lumber & Millwork Co. of Philadelphia, Philadelphia, Pa.
Madison Millwork, Inc., Jackson, Tenn.
Mahoney Sash & Door Co., Canton, Ohio
Marathon Millwork Corp., Wausau, Wis.
McPhillips Manufacturing Co., Inc., Mobile, Ala.
Melander, Clifford T., Montclair, N. J. (General Support)
Meinick Corp., Northvale, N. J.
Mercury Millwork Corp., Garden City, L. I., N. Y.
Metier Bros., Klamath Falls, Oreg.
Metropolitan Millwork, Inc., Brooklyn, N. Y.
Midland Building Industries, Inc., Indianapolis, Ind.
Miller Millwork Corp., Charlotte, N. C.
Monarch Metal Weatherstrip Corp., St. Louis, Mo.
Moore & Co., Dallas, Texas
Morgan Sash & Door Co., Lawton, Okla.
National Lumber, Inc., North Haven, Conn.
Noelke - Lyon Manufacturing Co., Burlington, Iowa
Norwood Sash & Door Manufacturing Co., Cincinnati, Ohio
Oklahoma Sash & Door Co., Oklahoma City, Okla.
Palmetto Sash & Door Co., Inc., Orangeburg, S. C.
Pease Woodwork Co., Inc., Hamilton, Ohio
Pittsburgh Testing Laboratory, Pittsburgh, Pa.
Portsmouth Lumber Corp., Portsmouth, Va.
Pullum Window Corp., Detroit, Mich.
Resnikoff, Abraham, Architect, Bronx, N. Y.
Reid, William H., Architect-Engineer, Whittier, Calif.
Rinn-Scott Lumber Co., Chicago, Ill.
Rock Island Millwork, Rock Island, Ill.
Sanders Co., Baltimore, Md.
Sash Door & Glass Corp., Richmond, Va.
Sears, Roebuck & Co., Chicago, Ill.
Smith, Allen A., Co., Toledo, Ohio
Southern Metal Products Corp., Memphis, Tenn.
Southern Millwork Co., Div. of Southern Mill & Manufacturing Co., Tulsa, Okla.
Southwestern Laboratories, Fort Worth, Tex.
Southwestern Sash & Door Co., Joplin, Mo.
Stoetzel, Ralph, Inc., Architects-Engineers, Chicago, Ill.
Teachout Sash, Door & Glass Co., Columbus, Ohio
Texas, University of, Austin, Tex.
Throop-Martin Co., Columbus, Ohio
United Wood Products Co., Inglewood, Calif.
Vogel, Willis A., Architect & Consultant, Toledo, Ohio
Welch, Carroll E., Huntington, N. Y.
White Pine Sash Co., Spokane, Wash.
Whittier-Ruhle Millwork Co., Ridgefield, N. J.
Williams, O. B. Co., Seattle, Wash.
Wilson, W. A. & Sons, Inc., Wheeling, W. Va.
Zegers, Inc., Chicago, Ill.

U. S. GOVERNMENT AGENCIES

Army, Department of the, Office, Chief of Engineers, Washington, D. C.
Interior, Department of the, Washington, D. C.
Veteran's Administration, Washington, D. C.

ACCEPTANCE OF COMMERCIAL STANDARD

CS264-64 WOOD HORIZONTAL-SLIDING WINDOW UNITS

(all sash operating)

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date _____

Office of Commodity Standards
National Bureau of Standards
U.S. Department of Commerce
Washington, D.C., 20234

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production¹ distribution¹ purchase¹ testing¹
of this commodity.

We reserve the right to depart from the standard as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____

(Fill in exactly as it should be listed)

Street address _____

City, State, and ZIP code _____

¹ Underscore the applicable words. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interest, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

(Cut on this line)

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function, performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

federal register



National Bureau of Standards

COMMERCIAL STANDARDS

Notice of Intent To Withdraw

In accordance with § 10.12 of the Department's "Procedures for the Development of Voluntary Product Standards" (15 CFR Part 10, as revised; 35 FR 6349 dated May 28, 1970), notice is hereby given of the intent to withdraw the following Commercial Standards:

- CS 120-53, "Ponderosa Pine Doors"
- CS 163-64, "Ponderosa Pine Windows, Sash and Screens (Using Single Glass and Insulating Glass)"
- CS 171-58, "Hardwood Veneered Doors (Solid-Core, Hollow-Core, and Panel and Sash)"
- CS 180-64, "Wood Double-Hung Window Units"
- CS 204-64, "Wood Awning Window Units"
- CS 206-64, "Wood Casement Window Units"
- CS 208-57, "Standard Stock Exterior Wood Window and Door Frames"
- CS 262-63, "Water-Repellent Preservative Non-Pressure Treatment for Millwork"
- CS 264-64, "Wood Horizontal-Folding Window Units (All Sash Operating)"
- CS 265-64, "Wood Horizontal-Sliding Window Units (One or More Non-Operating Sash)"
- CS 266-64, "Wood Single-Hung Window Units"

It has been tentatively determined that each of these standards has become technically inadequate, and in view of the existence of up-to-date National Woodwork Manufacturers Association standards for the products covered, revision of the Commercial Standards would serve no useful purpose.

Any comments or objections concerning the intended withdrawal of these standards should be made in writing and directed to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234, by April 26, 1974. The effective date of withdrawal, if appropriate, will be not less than 60 days after the final notice of withdrawal. Withdrawal action will terminate the authority to refer to these standards as voluntary standards developed under the Department of Commerce procedures from the effective date of the withdrawal.

Dated: March 21, 1974.

RICHARD W. ROBERTS,
Director.

[FR Doc. 74-7018 Filed 3-26-74; 8:45 am]